

Date: Wednesday, 21/01/2009 2:42:34 PM  
 User: Julie Dawson

## Process Sheet

|  |   |
|--|---|
| <b>Customer</b> : CU-DAR001 Dart Helicopters Services  | <b>Drawing Name</b> : ROUND BILLET, ALUMINUM                |
| <b>Job Number</b> : 45034                              |   |
| <b>Estimate Number</b> : 12286                         |   |
| <b>P.O. Number</b> :                                   | <b>Part Number</b> : D6103003                               |
| <b>This Issue</b> : 21/01/2009 <b>S.O. No.</b> :       | <b>Drawing Number</b> : D6103 REV B                         |
| <b>Prsht Rev.</b> : NC                                 | <b>Project Number</b> : N/A                                 |
| <b>First Issue</b> : / / <b>Type</b> : PURCHASED PARTS | <b>Drawing Revision</b> : B                                 |
| <b>Previous Run</b> : 42281                            | <b>Material</b> :   |
| <b>Written By</b> :                                    | <b>Due Date</b> : 04/02/2009 <b>Qty:</b> 20 <b>Um:</b> Each |
| <b>Checked &amp; Approved By</b> : <u>JLO 09.01.21</u> |   |
| <b>Comment</b> : Est Rev:A New Issue 06-02-09 JLM      |   |

## Additional Product

Job Number:



|                |                              |                      |
|----------------|------------------------------|----------------------|
| <b>Seq. #:</b> | <b>Machine Or Operation:</b> | <b>Description :</b> |
|----------------|------------------------------|----------------------|

1.0

PG

PURCHASING

**Comment:** PURCHASINGIssue P/O: 8027CD 09/01/22

a) Description: Alluminum round billet

b) Ø3.500" x 12.500" long

c) Tolerance on all dimensions are +0.030"/-0.000"

(20)

d) Material: 7075-T7351 (QQ-A-225/9)

Material certification required

2.0

D6103003P

round alum billet



**Comment:** Qty.: 1.0000 Each(s)/Unit Total : 20.0000 Each(s)  
 alum billet

3.0

PACKAGING 1

PACKAGING RESOURCE #1

**Comment:** PACKAGING RESOURCE #1

Receive &amp; Inspect For Transit Damage

Ensure material certification is attached

PC 9/2/9 (22)

4.0

QC6

DIMENSIONAL CHECK

**Comment:** DIMENSIONAL CHECKSD 09/02/11 (22)

5.0

PACKAGING 1

PACKAGING RESOURCE #1

**Comment:** PACKAGING RESOURCE #1

Identify and Stock

Location: \_\_\_\_\_

PC 9/2/10 (22)

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

Date: Wednesday, 21/01/2009 2:42:34 PM  
User: Julie Dawson

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: ROUND BILLET, ALUMINUM

Job Number: 45034

Part Number: D6103003

Job Number:



Seq. #:

Machine Or Operation:

Description :

6.0

QC21

FINAL INSPECTION/W/O RELEASE



09/02/24 *[Signature]*

Comment: FINAL INSPECTION/W/O RELEASE

Job Completion



*MF*  
*09-02-24*

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                                |                                 |                |                           |                       |                          |
|------|------|----------------------------------|--------------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action<br>Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng           | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                                |                                 |                |                           |                       |                          |
|      |      |                                  |                                |                                 |                |                           |                       |                          |
|      |      |                                  |                                |                                 |                |                           |                       |                          |

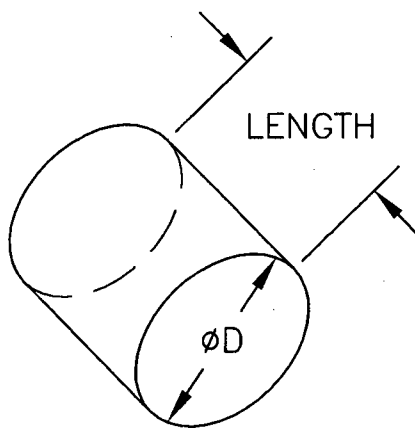
**NOTE:** Date & initial all entries



|                        |                         |   |                        |
|------------------------|-------------------------|---|------------------------|
| DESIGN<br>D4           | DRAWN BY<br>D4          | DART AEROSPACE LTD<br>HAWKESBURY, ONTARIO, CANADA |                        |
| CHECKED<br>[Signature] | APPROVED<br>[Signature] | DRAWING NO.<br>D6103                              | Rev. B<br>SHEET 1 OF 1 |
| DATE<br>06.01.31       |                         | TITLE<br>ROUND BILLET, ALUMINUM                   | SCALE<br>NTS           |
| A                      | 01.04.10                | NEW ISSUE   |                        |
| B                      | 06.01.31                | ADD D6103-003                                     |                        |

## SPECIFICATION CONTROL DRAWING

RELEASED  
06.02.07 [Signature]



SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 15034

PURCHASE MATERIAL ACCORDING TO THE FOLLOWING TABLE. SPECIFY ALLOY,  
DIAMETER x LENGTH (+0.030/-0.000) AS SHOWN.

TOLERANCE ON ALL DIMENSIONS IS +0.030/-0.000.

ALL DIMENSIONS ARE IN INCHES.

| Part No.  | Alloy                                    | D<br>(Diameter) | Length |
|-----------|--|-----------------|--------|
| D6103-001 | 7075-T6/T651 (QQ-A-200/11 OR QQ-A-225/9) | Ø3.250          | 12.50  |
| D6103-003 | 7075-T7351 (QQ-A-225/9)                  | Ø3.500          | 12.50  |
|           |  |                 |        |
|           |  |                 |        |
|           |  |                 |        |
|           |  |                 |        |
|           |  |                 |        |
|           |  |                 |        |
|           |  |                 |        |
|           |  |                 |        |
|           |  |                 |        |

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| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

**Castle Metals®**

A. M. Castle &amp; Co.

**PACKING SLIP**

Page 1 of 1

Pack Slip No:2074816

|  |               |   |  |  |               |  |  |
|--|---------------|---|--|--|---------------|--|--|
| <b>Ship From:</b><br>Castle Metals<br>MONTREAL<br>835-SELKIRK AVENUE<br>POINTE CLAIRE, QUEBEC<br>H9R 3S2 |               | <b>Sold To:</b><br>DART AEROSPACE LTD<br>1270 ABERDEEN<br>HAWKESBURY, ON K6A<br>1K7 |  | <b>Ship To:</b><br>DART AEROSPACE LTD<br>1270 ABERDEEN<br>HAWKESBURY, ON K6A 1K7 |               | <b>Deliver To:</b><br>DART AEROSPACE LTD<br>1270 ABERDEEN<br>HAWKESBURY, ON<br>K6A 1K7<br>CA |  |
| <b>Date Shipped</b>  | <b>F.O.B.</b> | <b>Freight Terms</b>  |  | <b>Carrier</b>   | <b>BOL No</b> | <b>Delivery No</b>   |  |
| 09-FEB-09  | ORIGIN        | Prepaid   |  | MANITOULINE  | 1411-2        | 2074816  |  |

|                         |                                       |
|-------------------------|---------------------------------------|
| <b>Shipment Details</b> | <b>Final Destination Branch - MON</b> |
|-------------------------|---------------------------------------|

|                   |         |             |   |             |               |
|-------------------|---------|-------------|---|-------------|---------------|
| Order No          | Line No | Item No     | Description   | Shipped Qty |               |
| 165476            | 1       | 8808.MO     | 3.5000.RD.7075.T7351.ALUMINUM.CF.132.0000-144.<br>0000<br>CUT TO 12.5 IN () | 22 PCS      |               |
| Purchase Order No |         | Part Number | Ordered Qty   | Shipped Qty | Backorder Qty |
| 8027              |         |             | 22 PCS  | 22 PCS      |               |
| Details           |         |             |   |             |               |
|                   | Mill    |             | Heat Number   | Mech Id     | Shipped Qty   |
|                   |         |             | 20117526  |             | 22 PCS        |

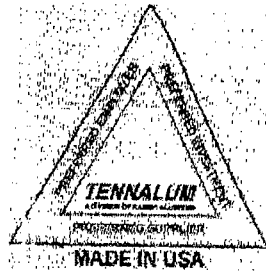
These commodities/technologies are subject to US Export Administration & US State Dept. Regulations and, if intended for export, were/are exported thereunder. Diversion contrary to US Law is Prohibited.

We hereby certify the material covered by this certification conforms in accordance with the above specifications and has been found to meet the applicable requirements for the material, including any specifications forming a part of the description. Test reports are on file subject to examination. All claims for defective material are waived unless made in writing to A.M. Castle & Co. within 60 days of the shipment. Material cut to the correct size, or material cut by the customer cannot be returned for credit.

This material has been received and  
inspected by:

Date:

# KAISER ALUMINUM FABRICATED PRODUCTS



## CERTIFIED TEST REPORT

<http://www.KaiserAluminum.com>

Tennalium  
C Box 869  
Jackson, TN 38302  
31-423-2811

|  |                      |                               |   |   |                      |
|--|----------------------|-------------------------------|---|---|----------------------|
| CUSTOMER PO NUMBER:<br>11-17533  |                      | CUSTOMER PART NUMBER:<br>8808 |   | PRODUCT DESCRIPTION:<br>Cold Finished Round |                      |
| KAISER ORDER NUMBER:<br>648879   | LINE ITEM:<br>1      | SHIP DATE:<br>01/05/2009      | ALLOY:<br>7075  | TEMPER:<br>T7351                            |                      |
| WEIGHT SHIPPED:<br>967 lbs.  | QUANTITY:<br>14 pcs. | B/L NUMBER:<br>28952          | DIAM/DAF/THKNS:<br>3.500 in.  | WIDTH:<br>0.000 in.                         | LENGTH:<br>144.0 in. |
| SHIP TO:<br>A M Castle & Co<br>A M Castle & Co.<br>3400 No. Wolf Road<br>Franklin Park, IL 60131 USA |                      |                               | SOLD TO:<br>A M Castle & Co<br>AM Castle & Co.<br>3400 No. Wolf Road<br>Franklin Park, IL 60131 USA |   |                      |

Test Code: 1000 AC

### Actual Physical Properties

| Lot Number | LONG.<br>UTS<br>ksi | LONG.<br>YTS<br>ksi | LONG.<br>ELONG.<br>% | COND<br>% IACS |
|------------|---------------------|---------------------|----------------------|----------------|
| 20117526   | 70.3                | 58.7                | 16.0                 | 39.3           |

### Chemical Composition, WT. % (Aluminum Remainder)

|          | Si   | Fe   | Cu  | Mn   | Mg  | Cr   | Zn  | Ti   | OTHERS<br>EACH | OTHERS<br>TOTAL | Lot      |
|----------|------|------|-----|------|-----|------|-----|------|----------------|-----------------|----------|
| 20117526 | 0.02 | 0.26 | 1.5 | 0.04 | 2.7 | 0.20 | 5.8 | 0.02 |                |                 | 20117526 |
| 20117526 | 0.40 | 0.50 | 2.0 | 0.30 | 2.9 | 0.28 | 6.1 | 0.20 | 0.05           | 0.15            |          |
| 20117526 |      |      | 1.2 |      | 2.1 | 0.18 | 5.1 |      |                |                 |          |

### Specifications

Standards: ISO 9001, ASTM B211-03, AMS 4124 D, AMS-QQ-A-225/9 Non-Standard: A97075-11-9

### CERTIFICATION

Kaiser Aluminum & Chemical Corporation ("Kaiser") hereby certifies that the metal shipped under this order has been inspected and tested and found in conformance with the applicable specifications forming a part of the description set forth in Kaiser's sales acknowledgement form. Any warranty is limited to that shown on Kaiser's sales acknowledgement and conditions of sale. Test reports are on file, subject to examination.

John H. Nekeamp, Quality Manager

Plant Serial: 117651

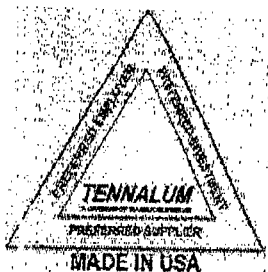
*[Signature]*  
John H. Nekeamp

Kaiser Order Number: 648879



**KAISER**  
**ALUMINUM**  
**FABRICATED PRODUCTS**

Tennalum  
PO Box 669  
Jackson, TN 38302  
731-424-2811



**CERTIFIED TEST REPORT**  
<http://www.KaiserAluminum.com>

### Miscellaneous Notes

Made in USA

This material was melted and manufactured in the USA. Mercury is not a normal contaminant in aluminum alloys. Neither mercury nor any of its compounds were utilized by Kaiser Aluminum in the manufacture of this material. AS9100B:2004 This material meets the requirements of (cold finished) T73 temper and QQ-A-225/9E (CANCELLED). NAFTA - YES. Material is RoHS compliant.

# TEST CERTIFICATE



Hulamin Limited Reg. No. 1940/013924/06 VAT Reg. No. 4080149604  
HEAD OFFICE: Moses Mabhida Rd, Pietermaritzburg 3201, P.O. Box 74, Pietermaritzburg 3200, South Africa  
Telephone: +27 33 395 6911 Telefax: +27 33 394 6335

|   |  |  |
|---|--|--|
| <b>BUYER:</b><br>EMPIRE RESOURCES INC<br>10th FLOOR<br>1 PARKER PLAZA<br>FORT LEE | <b>Shipping File No :</b> UR33742<br><b>Lot No :</b> 18/02/128T5<br><b>P/List No :</b> 2/635847<br><b>Release No :</b> | <b>Product :</b> 2" X 48.5" X 144.5" PLATE 6061, T651<br><b>Dimension :</b> 2" X 48.5" X 144.5"<br><b>Alloy - Temper :</b> 6061 - T651 |
|   | <b>Cust Order No :</b> 3716-P.R127727<br><b>HULAMIN Order No :</b> 001568E<br><b>Item Part :</b> 1/1                   | <b>Certificate No :</b> 0802LB2297<br><b>Cust Ref/Part No :</b><br><b>Combined P/List No :</b>   |
|   | <b>Case No :</b>   |  |

## MECHANICAL TEST RESULTS

| Lot No.     | Cast No. | Metal Id | Alloy | Spec No | Mechanical Properties |           |                    |            |           |                       |           |
|-------------|----------|----------|-------|---------|-----------------------|-----------|--------------------|------------|-----------|-----------------------|-----------|
|             |          |          |       |         | Yield Strength (Ksi)  | UTS (Ksi) | Elongation A50 (%) | Earing (%) | Test Date | Gauge Length (Inches) | Bend Test |
| 18/02/128T5 | SCWW     | 13767085 | 6061  | Min     | 35.1                  | 42.0      | 10                 |            |           |                       |           |
|             |          |          |       | Max     | 39.3                  | 48.3      | 12                 |            | 14/02/08  | 02                    |           |
|             |          |          |       |         | 39.2                  | 48.0      | 12                 |            | 14/02/08  | 02                    |           |

## CHEMICAL COMPOSITION

|     | Cast No. | Alloy | Si (%) | Fe (%) | Cu (%) | Mn (%) | Mg (%) | Cr (%) | Zn (%) | Ti (%) | Each (%) | Total (%) |
|-----|----------|-------|--------|--------|--------|--------|--------|--------|--------|--------|----------|-----------|
| Min |          |       | 0.40   |        | 0.15   |        | 0.8    | 0.04   |        |        |          |           |
| Max |          |       | 0.8    | 0.7    | 0.40   | 0.15   | 1.2    | 0.35   | 0.25   | 0.15   | 0.05     | 0.15      |
|     | SCWW     | 6061  | 0.63   | 0.40   | 0.27   | 0.06   | 1.04   | 0.19   | 0.00   | 0.02   |          |           |

CONFORMS TO: AMS/90-A-250/11, ASTM B209-96, ASME SB-209 AND AMS 4027M

WE HEREBY CERTIFY, THAT THE MATERIAL DESCRIBED ABOVE HAS BEEN TESTED AND COMPLIES WITH THE TERMS OF THE ORDER CONTRACT. THE INSPECTION RESULTS INDICATED IN THE CHEMICAL COMPOSITION HAVE BEEN OBTAINED FROM CAST ANALYSIS.

Dr. A. Pitchford (HEAD OF CHEMICAL TESTING)

Ver 2.2.8

V. Maniram (HEAD OF PHYSICAL TESTING)

CASTLE METALS-LA

DATE REC'D 05/13/08

REC'D FROM Empire

APPROVED BY [Signature]

IAC 8641

Printed Date : Monday 25 February 2008

Empire/Carman Jagan